

## OIB - Other: NOAA P-3 04/29/16 Science Report

**Aircraft:**

Other: NOAA P-3

**Date:**

Friday, April 29, 2016

**Mission:**

OIB

**Mission Location:**

Arctic Ocean

**Mission Summary:**

OIB flew the South Basin Transect sea ice mission. This is a baseline priority flight providing data on the thickness gradient and distribution of perennial and seasonal ice across the Arctic Basin. It also measures some of the oldest multi-year ice and marks our transition back to Thule. Traditionally, the first portion of this mission had been flown in the dark but due to the later start time of the campaign this year we were able to get enough light to see the surface and obtain DMS imagery. The decision to launch the mission was made with the projection that we would lose around 40% of the lidar coverage due to clouds. We quickly entered a layer of clouds just after the start of the data line in the Beaufort Sea. Due west of Banks Island about 2 hr 15 min into the flight we climbed up to 2000 feet to get above the cloud layer to avoid ice buildup. Shortly after the cloud layer became thin enough for surface visibility and laser returns. Around 2 hr 30 min we descended back down to 1500 feet as the cloud layer more fully dissipated and icing was no longer a concern. Fortunately, the pessimistic forecast cloudy conditions did not materialize and the rest of the line was clear, constituting a total return of about 80% of the ATM lidar data.

The forecast for landing in Thule initially called for VFR conditions. However, information received on the flight en route indicated poor visibility which forced us to climb to high altitude along the southbound portion of the line in the Lincoln Sea.

**Data volumes:**

ATM: 29 Gb some window contamination probable later in flight

FLIR: 3.5 Gb

DMS: 113 Gb

Ku-Band Radar: 144 Gb

MCoRDS: 485 Gb

Snow Radar: 144 Gb

BESST: (write error caused loss of data collection shortly after instrument turn on)

Total data collection time: 3.5 hrs

**Submitted by:**

Nathan T. Kurtz on 04/30/16

**File:**

 [sisbasin.pdf](#)

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